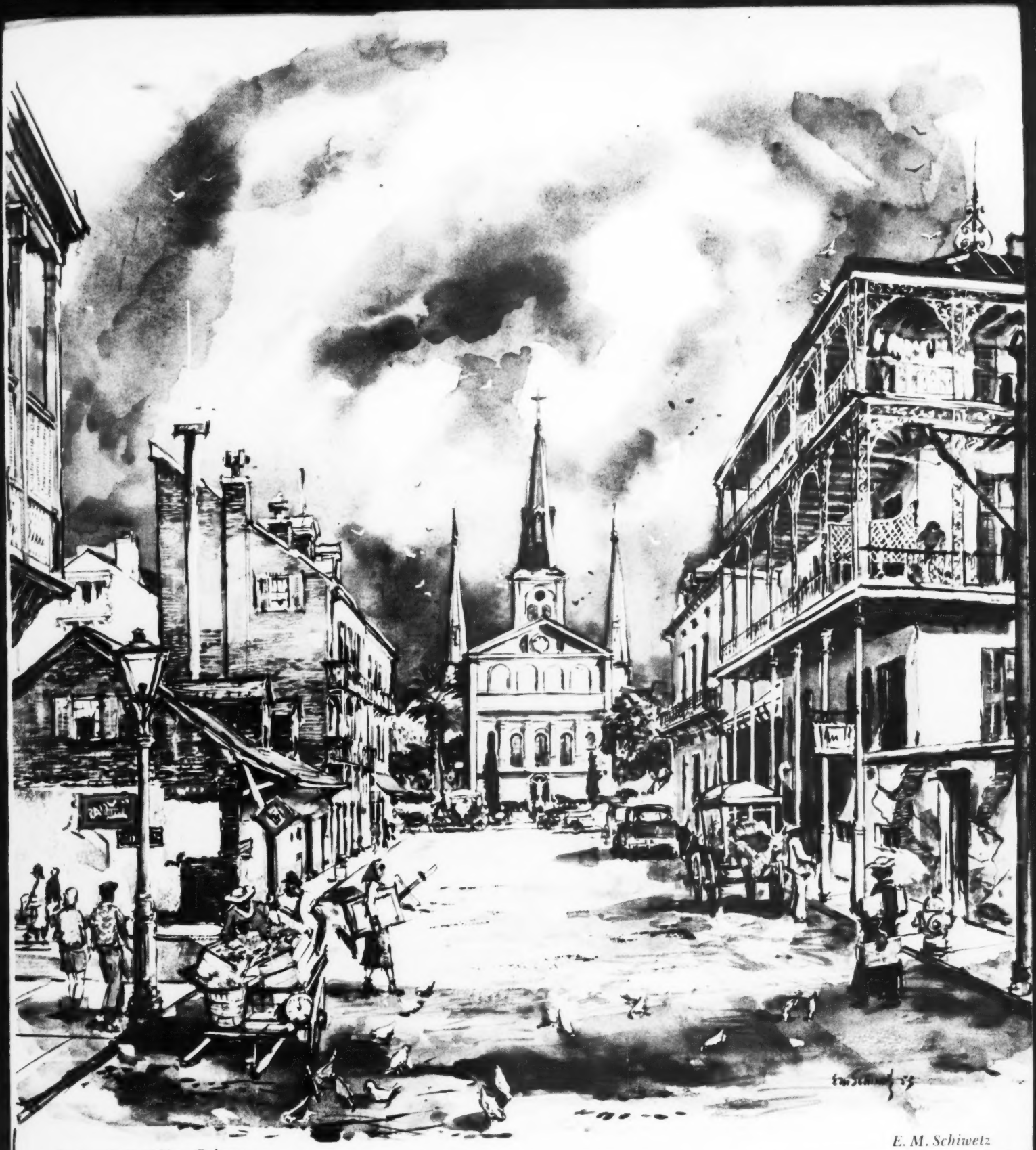

Impressions of New Orleans

E. M. Schiwetz

The HUMBLE WAY

MAY-JUNE, 1953

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MAY-JUNE, 1953

Vol. IX No. 1

WHAT THEY THINK OF US

Oil industry is good for Texas say more than 94 per cent of those asked in recent survey

NOT long ago, a Texas housewife came face to face with one of life's little problems. Her youngsters were unexpectedly caught at school without a ride home. The solution? She called the family service station, and a car was immediately dispatched to pick up the stranded brood.

A farmer in another part of the state was confronted with an entirely different predicament. One of his cows went astray and fell in a deep ditch. This time an oil field crew at work on adjoining property came to the rescue by helping hoist bossy to level terrain.

A third Texan, a contractor, admitted that civic affairs were his big outside interest. He liked the cooperation shown by the oil companies and their employees in his city's civic projects. "All I hear about them," he said, "is good."

Those are just a few of the many small but significant incidents which Texans cite as being partly responsible for the friendly feeling they have for the oil industry. All were revealed recently in an opinion survey which Humble made to find out two things: (1) what Texas motorists think about the oil industry, and (2) the motives behind their buying habits.

The results were most gratifying. More than 94 per cent of the people of Texas, the survey indicated, have a favorable opinion of the oil industry and think it has been good for the state. Less than five per cent are unfavorably disposed toward the industry. As for buying habits, the survey proved to be a remarkable "play-back" of the philosophy of quality and service upon which Humble has long based its selling efforts.

Behind this poll of customer opinion, however, was no idle desire to fish for compliments. The basic reason for all such surveys was pretty well summed up a few years ago by a top executive of one of the nation's largest corporations:

"All business in a democratic country," he said, "begins with public permission and exists by public approval."

For the American oil industry, of course, these words carry a weight which is felt in its every operation from the leasing of land to the marketing of products. For individual oil companies, Humble included, they hold the key to ultimate success or failure.

Public permission, being spelled out in the laws of the land, is a business factor that is fairly easy to gauge. Not only the oil companies, but every enterprise from the corner drug store to the multi-plant specialist in mass production must conform to a set of legal rules. These rules may be changed, revoked or suspended, but with respect to public permission, every business usually knows just where it stands.

Public approval, though, is much more nebulous. It often wears a poker face, and even the blunt figures on a balance sheet may not always show how the winds of customer opinion are blowing. For offhand, what business is able to see itself as others see it?

Take, for instance, some of the critical comments turned up in Humble's recent survey. Several were rather surprising:

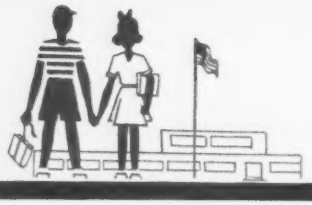
One office worker complained that the oil companies sat by and "let the Federal Government take over the Tidelands."

Another said: "Some of their advertising is crazy. Like soap, beer, cigarettes, they're all the best."

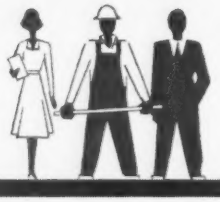
A laborer had a vague notion that the oil industry was somehow responsible for the great Texas City explosion.

At Laredo office of Humble Touring Service, vacationers get entry papers and helpful information before crossing over the Rio Grande into Mexico.

REASONS FOR PUBLIC'S FAVORABLE OPINION OF OIL INDUSTRY



TAX REVENUES DERIVED FROM OIL INDUSTRY



JOB OPPORTUNITIES AND WAGE BENEFITS

BRINGS MORE MONEY INTO TEXAS

A farmer said: "They make it hard to get farm hands. Boys think they're better off roughnecking than on a farm."

And a housewife commented: "Some people think that in case of war the oil would make Texas a target."

Humble's survey was specifically designed to draw out opinions like these, both favorable and unfavorable, which are often felt but seldom expressed. It differed from previous surveys the Company has made in that it was based entirely on "depth interviews," a technique borrowed from the field of clinical psychology. Instead of questions which could be answered within the framework of given alternatives (yes, no, or maybe), the questions called for detailed answers to be recorded verbatim.

The survey, in short, undertook to probe underlying motives and hidden causes of behavior. Its goal was to find out not only what Texas motorists think about the oil industry and its products, but also the why behind their opinions.

A scientific probability sample of nearly a thousand car owners was drawn from the Texas Highway Department's list of automobile registrations. Motorists who lived outside Humble's marketing area were eliminated, as were those who had moved from the state. To the remainder went a letter outlining the purposes of the survey. The letter gave no inkling that the survey was being made for Humble, and each prospect was encouraged, upon being interviewed, to give his opinions and ideas with the utmost frankness with a view to showing the oil industry how it can better serve the people of Texas.

Ten trained pollsters handled the actual field work, eventually getting lengthy personal interviews with 436 persons. The people interviewed fell into four broad groups of about equal size: office workers, laborers, farmers, and housewives.

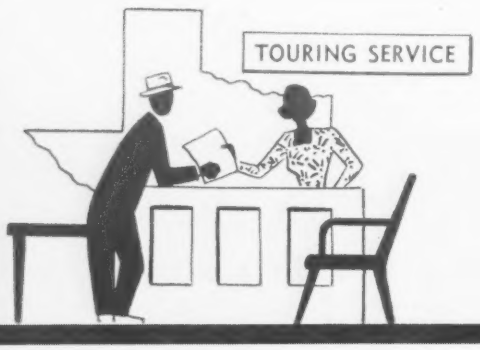
When the returns came in, the result was a landslide verdict in favor of the oil industry, its individual companies, and its products and services. A whopping 94.7 per cent, for example, said they thought the industry had been good for Texas. And they were able to tick off good reasons for this opinion.

Cited most often were the copious tax revenues derived from the oil industry. In close second place were the job opportunities and wage benefits which have gone hand-in-hand with the state's expanding oil activities. Most of the other reasons were variations on these two themes: *has brought more money to Texas; has provided oil and gasoline for transportation; has built up and improved Texas.*

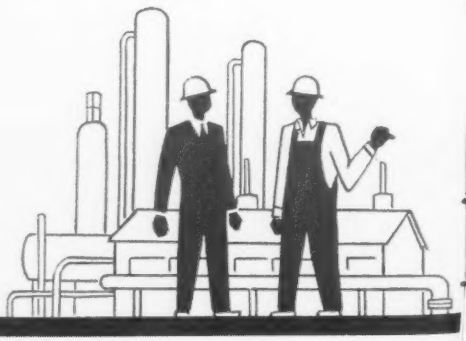
These off-the-cuff opinions showed that Texans are well versed in the role their oil industry plays in the state's economy. One needs only to compare the foregoing reasons with the data Humble put together a few years ago in a booklet called *What Oil Means to Texas.* On the inside cover was a brief summary which said: "Oil means (1) more and better jobs, (2) more income for Texans; (3) increasing industrialization, and (4) better living with petroleum products." Texas motorists told the interviewers much the same thing in different words.

Asked to name a way that the oil industry had not been good for Texas, 80 per cent of those interviewed were stumped for an answer. The other 20 per cent, however, tossed out a few barbs of one kind or another, some of which have already been mentioned.

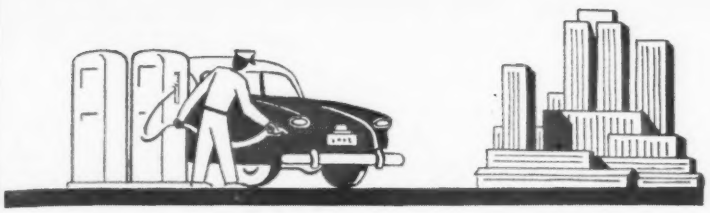
POLL SHOWS WHY PUBLIC FAVORS CERTAIN COMPANIES



PLEASANT RELATIONSHIP IN PERSONAL DEALINGS WITH COMPANY



COMPANY'S EMPLOYEE RELATIONS HELP FORM PUBLIC OPINION



PROVIDES GASOLINE AND OIL FOR TRANSPORTATION

HAS BUILT UP AND IMPROVED TEXAS

"Most of the unfavorable influences mentioned," said the survey director, "are simply natural results of getting oil out of the ground and of being an outstanding industry in the state. People complained of the odors from oil fields and refineries, damaging of property, and ruining scenic beauty. Other comments involved the 'bigness' of the industry.

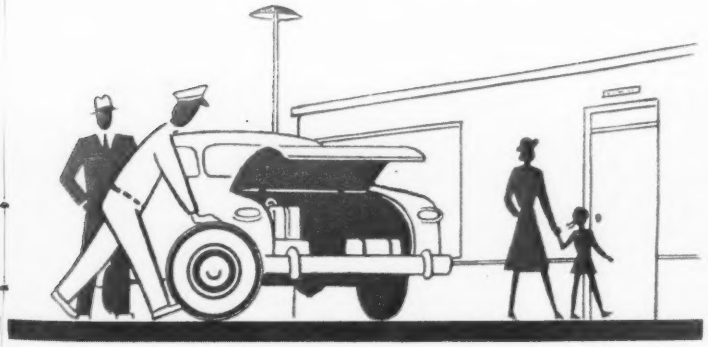
"Laborers could give few real criticisms. Farmers were more concerned with 'harm' done natural resources, with allowables and royalties. Women were more interested in social influences like automobile accidents, oil field odors, and 'lack of interest' in civic affairs."

Other questions delved into the matter of which oil company was thought to be the best in the state. Here Humble led the parade, with exactly 33 per cent naming it as their favorite. Another well known company, which we will call Company A, ranked second with 20.6 per cent. Company B, in third place, was the choice of 13.1 per cent.

It was interesting to note that even some non-customers picked Humble as their favorite company. Many of these people said they use another company's products because of a long-standing friendship with that company's dealer. They often added, however, that when on the road they usually stop at a Humble station.

What makes a person think a certain company is a good one? Many factors enter into the decision, the survey showed, but several crop up more often than others. Most important, perhaps, is how pleasant or unpleasant one's personal dealings have been with the company. Another big factor is the company's employee relations, since the word-of-mouth influence of a happily employed husband, neigh-

Rest room cleanliness was singled out for special mention when giving reasons for patronizing a favorite station.



THE STATION FACILITIES WHICH COMPANY HAS TO OFFER

HOW HUMBLE RANKS IN POPULARITY IN PUBLIC OPINION SURVEY

HUMBLE COMPANY	33%
COMPANY "A"	20.6%
COMPANY "B"	13.1%

bor, or friend carries a great deal of weight. A third factor which helps determine a company's reputation is its station facilities.

Humble stood out on all three counts. It also made the most favorable showing when the respondents were asked which oil companies they thought were not "quite so good." Only two persons put Humble in this category. One was an engineer who claimed the wrong kind of grease had been put in the transmission of his car. The other was a man on whose land Humble had drilled a dry hole. This, he said, had kept other companies from testing his land.

How can the oil companies make further contributions to the welfare of Texas? Some of the suggestions had to do with medical aid, better roads, improvement of petroleum products, and lower gasoline prices. But several could give no suggestions at all, and quite a number said the oil industry was doing enough for Texas right now.

One man put it this way: "Oil companies are like any other business. They're in business to sell their product. I don't see that they are obligated to do anything for the people except sell them a good product—give them their money's worth. They should concentrate on the industry itself."

Of the 21 depth questions used in the survey, more than half went into this matter of good products and the things that make a customer feel he is getting his money's worth. All in all, the answer—the reason for patronizing a "favorite" station, which 80.5 per cent said they did—boiled down to a matter of service—thorough, special, personalized, friendly service.

One man, for instance, said that whenever he bought a new car, he gave his station salesman full responsibility for taking care of it. Another said: "My dealer doesn't act like you are imposing on him when he checks your tires." One family even went so far as to get references on a new station upon moving to a strange neighborhood. Service, in short, proved to be the chief criterion in case after case.

Humble's service, like its products and its industrial standing, emerged from the survey with flying colors. Singled out for particular mention was the clean rest rooms, an extra service for which the Company's dealers have long been noted.

With the information gleaned from this survey, Humble is better prepared than ever to move forward with its main sales program—a program aimed at making sure that products and services under the Humble sign remain second to none. It feels that by so doing it will not only profit itself, but it will also be helping bolster the fine reputation that the oil industry as a whole now enjoys with the motorists of Texas.

"All business in a democratic country begins with public permission and exists by public approval."

The Louisiana Purchase

For four cents an acre, the United States moved its boundary westward from the Mississippi River to the crest of the Rockies

WHEN James Monroe sailed for Paris in the spring of 1803, he had not the slightest idea that at the end of his voyage lay one of the best real estate bargains in history.

Monroe was under instruction from President Thomas Jefferson to buy, if possible, an American outlet to the Gulf of Mexico. Specifically, our young Republic wanted to buy from France the so-called "Isle of Orleans," which included the city of New Orleans, the mouth of the Mississippi River, and some adjacent area—less than 3,000 square miles in all. Robert R. Livingston, our resident Minister to France, had made repeated offers to buy the land, but had met with nothing but diplomatic rebuffs from Talleyrand, French foreign minister.

When Monroe arrived in Paris, he found Livingston dickering with Talleyrand, not for the Isle of Orleans alone, but for the whole of the Louisiana territory—an area of more than 909,000 square miles! Here was a surprising turn of events made possible by political expediency. The sale of Louisiana to a rival of England's happened to fit in well with Napoleon's plan of attack against Great Britain.

What is now the *state* of Louisiana was just a small portion at the southern end of the vast wedge-shaped sweep of land which La Salle had claimed for France in 1682 and named in honor of Louis XIV. It stretched from the Gulf of Mexico northward to Canada, a great heartland covering roughly the central third of the United States as we know it today. In 1803, it was larger than the United States.

France had ceded Louisiana to Spain in 1762, at the close of the French and Indian War, mainly to keep England from getting it. But Napoleon had taken it back again in 1800, with the plan of using Louisiana as a land base from which to strike at England through Canada. By 1803, however, the

On Bayou LaFourche fishermen go quietly about their business in the shadows of oil wells from which mineral wealth flows.

Little Corporal had changed his strategy, deciding to attack directly across the English Channel.

Napoleon knew that when he launched his frontal assault across the Channel, British seapower would make French dominions in America an easy plum for the plucking. Since he would lose Louisiana in any case, he reasoned, why not sell it beforehand and use the proceeds to help finance the forthcoming conflict? And what better buyer could he find than the United States, where memories of the Revolution were still green and rivalry with England still smouldered?

Thus it was that Monroe and Livingston, who would have been happy to settle for New Orleans alone, found thrust upon them an opportunity to buy all of Louisiana. After some haggling, a price of some $23 million (including interest and claims payments) was agreed upon. *At one stroke, we had more than doubled the size of our nation!*

Time has proved the Louisiana Purchase to be by all odds the best investment this nation ever made. Some have gone so far in their enthusiasm as to term it "the most important event in American history." Whether that is true is open to debate, but no one can deny that the Purchase ranks among the most important events in our history. Not even Jefferson himself could have hoped for such a coup. For our young Republic, then less than two decades old, it was geographically the greatest step yet taken in the expansion of our country. It removed the Mississippi River as our western boundary and extended that boundary to the crest of the Rockies.

For the $23 million, we bought all of the present states of Arkansas, Missouri, Iowa, North Dakota, South Dakota, and Nebraska. In addition, we acquired most of the present states of Louisiana, Minnesota, Kansas, Oklahoma, Colorado, Wyoming, and Montana. The cost figured out about $25.50 per square mile—*just a bit less than four cents an acre!*

We bought a vast wilderness whose lands, minerals, and other resources have proved to be almost incalculable. For four cents an acre, we bought what became the breadbasket of our nation. For four cents an acre, we bought the gold of Colorado, Montana, and South Dakota . . . the oil of Oklahoma, Louisiana, Wyoming, Kansas, and others . . . the great grain belt of the Midwest and part of the southern cotton belt . . . the great cattle and sheep ranges of the West . . . the coal beds that underlie a half-dozen states in the Purchase . . . the zinc and manganese of Missouri . . . the zinc and lead of Iowa . . . and the thousands of rich acres that were destined to give life and substance to millions of our people.

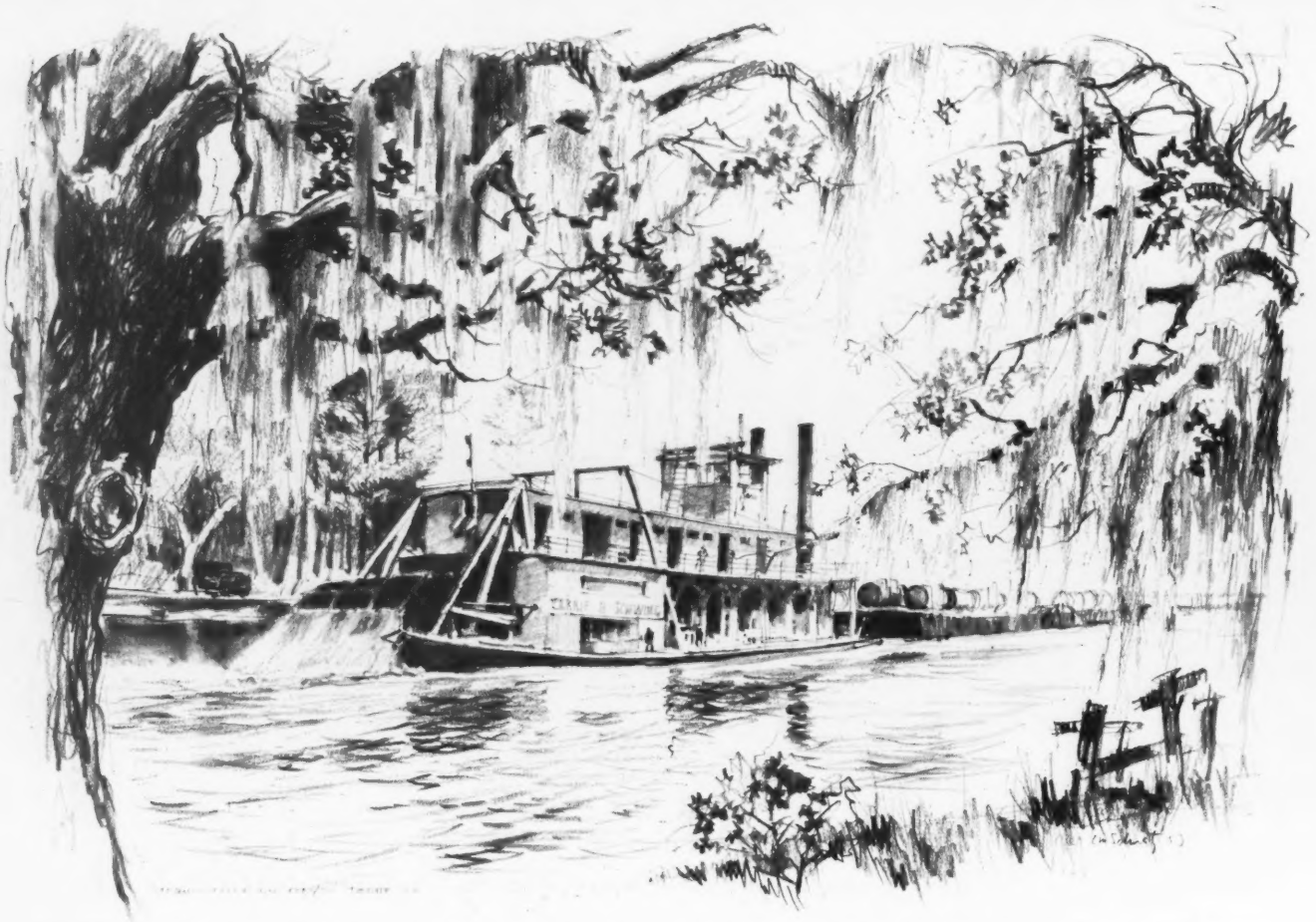
And we did not have to wait long for a return on our investment. In the first year after the Purchase, receipts from the New Orleans customhouse yielded the United States a seven per cent return on the whole purchase price.

Today, we find all around us staggering examples of how well the investment has paid off. As a result of the effort and investment that have gone into the land, the value of minerals alone produced from the state of Louisiana in one year is more than 26 times the original $23 million cost of the entire Purchase. In one year, Colorado's beet sugar crop is worth almost as much as the whole Purchase—more than $22 million.

In the original Purchase, the states of Louisiana and Colorado were bought for an estimated $1,100,000 each. Iowa, for which we paid only $1,435,000, produces corn worth $713 million every year. Montana cost us an estimated $3,385,000—the highest price paid for a single state. Montana's copper alone is worth more than $27 million annually. The United States never made a better buy!

Melrose Mansion near Natchitoches is an example of the good life which early settlers enjoyed on the plantations of Louisiana.

Muskrat trappers harvest an important resource in the Louisiana marshes while oil explorers soar overhead in helicopters.



Sternwheelers turned the muddy Mississippi into a seething avenue of commerce right after the Purchase; are in use today.

Even so—incredibly enough—not everyone thought Jefferson and his ministers had acted wisely in buying Louisiana. Some doubted the validity of our title. Others thought Louisiana would break away from the Union and set up a separate empire. Still others argued that distances were too great between East and West for best communication and good relations between the two sections of the country.

The first two opinions have proved unfounded. The third was brushed aside by the invention of the river steamboat and by the westward movement of a network of railroads.

Before about 1815, travel and commerce on the Mississippi had been more or less one-way—downstream. Traders upriver would pile their goods on flatboats, rafts, pirogues—anything that would float and carry cargo—and pole or paddle them down to New Orleans, aided by the current. At New Orleans, they would sell their goods, dispose of their craft, buy a horse, and head northward again—those who didn't decide to stay in New Orleans.

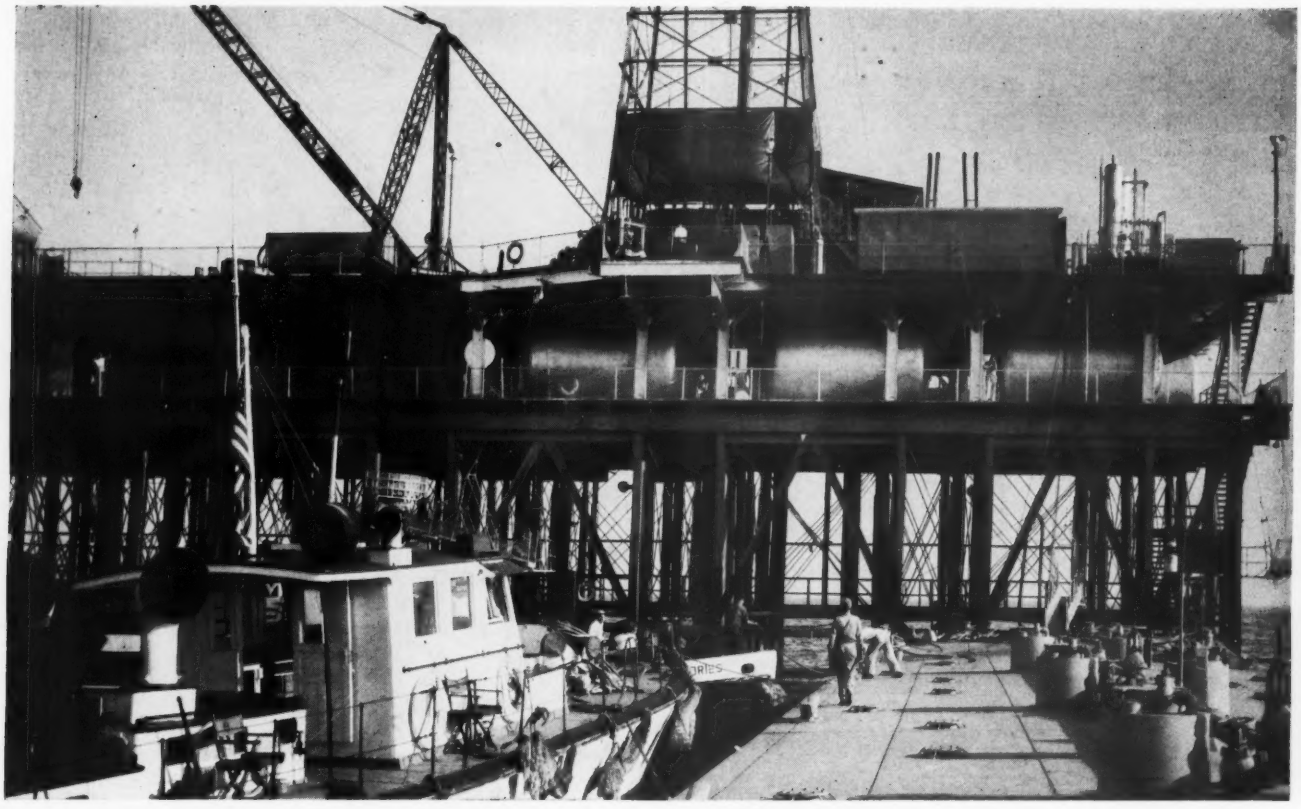
The sternwheeler, with its churning paddles beating muddy water to a white froth, changed all that. Commerce and travel became a two-way street on the crowded Mississippi. The river seethed with activity. New Orleans tripled its population in the first 15 years after the Purchase, making a spirited bid for the title of the nation's most important port.

Boats made fast time between New Orleans and St. Louis and other points upriver. Rivalries between owners and captains of these boats became heated, with thousands of dollars being bet on the outcome of a single run. Of all such races, none is more famous than that between the *Natchez* and the *Robert E. Lee*. In their blistering run from New Orleans to St. Louis, both captains threw caution to the winds, steaming away with boilers nearly bursting and safety valves wedged shut. The *Lee* won, covering the 1,278-mile distance in 94 hours—good time for an upstream run in those days.

Following the river steamboat and eventually crowding it out in a competitive struggle for commerce was the railroad. Westward movement of the rails is a dramatic story of hard work and courage in the making of our country. Working together as a means of communication and transportation, steamboats and railroads knitted together the two halves of our young nation.

Measured by any yardstick, the Louisiana Purchase was a major influence in assuring the western settlement of the United States. It brought on a surge of migration westward even greater than that which had sent thousands of hardy souls across the Appalachians in an earlier time. Restless with the frontier spirit, pushed on by a nameless urge to see beyond the next mountain, settlers came in a swelling tide, moving ever toward the sunset. And they came to stay. With them they brought all the courage, industry, and homemaking spirit that have made our country great.

It was perhaps inevitable, in the full scheme of things, that Louisiana should one day become part of the United States. But we can thank Napoleon's feud with England for the chance to buy it so soon. It was a great day for our country when he decided to sell.



Oil produced in the Gulf of Mexico is barged to New Orleans. This platform is six miles out from the Louisiana shore. From it Humble has drilled four producing wells. Other Tideland operations are carried on from LSTs tied up to smaller platforms.

Humble in Louisiana

Company has had active part in state's oil development

IN THE storied land of coastal Louisiana, in the center of a great crescent curving along the edge of the Gulf from Texas to Florida, oil progress is interwoven with history that antedates the Louisiana Purchase.

Here, derricks and drilling rigs rise from swamps and marshes once threaded by De Soto and La Salle. Here, the waters of bays and bayous still yield to knifing prows of exploration craft—but the exploring is for oil, not for the glory of crowned monarchs. And here, many a driller and roughneck can trace his ancestry back to a time when flags over Louisiana bore not the Stars and Stripes, but the French *fleur-de-lis,* or the Spanish lions and castles of Castille and Aragon.

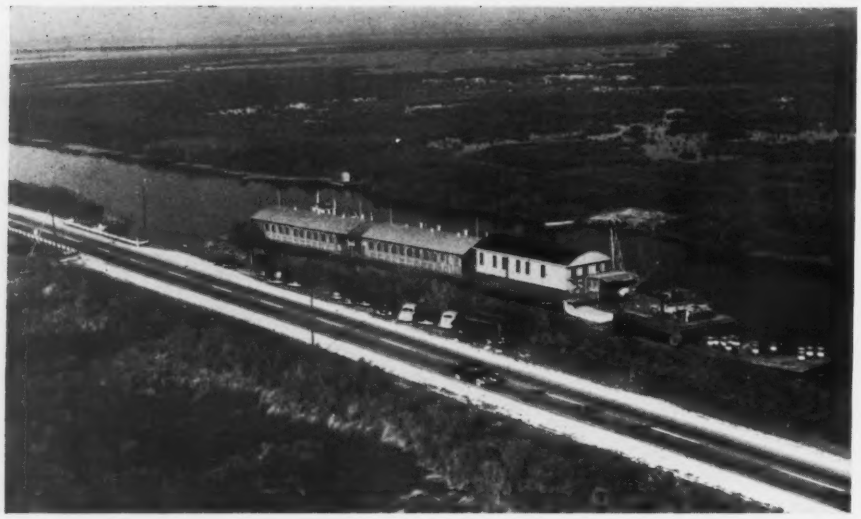
Humble's business in Louisiana is basically searching for and producing oil; it has no pipe lines, refineries, or marketing facilities there. The Company first opened offices in the state when it established a Shreveport headquarters in 1919 to serve operations in Arkansas and Northern Louisiana.

Production operations began in Southern Louisiana, where major emphasis is now directed, in 1929. In that year, drilling began on the No. 1 Cockrell-Moran well at Lake Washington. This well produced Humble's first oil in Louisiana.

Since the Lake Washington discovery, Humble has continued to play an important part in the economic life of Louisiana, adding a bright array of stars to its constellation of oil fields in the Pelican State. These fields include North Crowley, South Crowley, Potash, Chalkley, Bayou Sale, Avery Island, Bayou Carlin, Duck Lake, Bayou de Glaise, Hester, College Point-St. James, Lake Raccourci, Avondale, Burton, Lake Sand, Laurel Ridge, Deer Island, East Golden Meadow, Bayou Jean LaCroix, Angie, Basile, Lirette, Pecan Island, Bayou Chene, East Lake Verret, Four League Bay, South East Pass, and a number of off-shore leases: Grande Isle Blocks 16 and 18, South Timbalier Blocks 34 and 52, and West Delta Blocks 27 and 30. Three fields have been abandoned: South Oberlin, Little Temple, and Kaplan.

The Company's three major fields in Louisiana are Avery Island, Bayou Sale, and North Crowley. Weeks Island and Good Hope fields are also important.

Drilling crews in Louisiana must dig deep to tap the state's oil resources, using powerful and heavy drilling rigs. In this type of equipment, investment is unusually heavy and cost of operation is high. Deep drilling is expensive drilling.



Houseboats are home for exploration crews in Southern Louisiana. Here is a typical operations base for Humble geophysics crews exploring acreage in all directions.

Giant marsh buggies play an important role in carrying men and oil finding equipment into the endless stretches of swamp land; travel in water or over soggy marsh.

Attractive communities of homes are built near major oil finds. Here live the families of employees who develop and operate oil fields in the surrounding area.

Rigs in Louisiana carry their bits to an average depth of nearly 10,000 feet (1951 figure), about twice the average depth of Texas wells. In 1952, the deepest well drilled by Humble in Louisiana was carried to a total depth of 14,884 feet in the Lake Merchant field. It did not hold its title long. This year, the H. P. Gonsoulin No. 1, drilled to a total depth of 17,403 feet in the Weeks Island field, was completed as a gas condensate well.

During 1952, Humble drilled 133 wells in Louisiana—100 in proven areas and 33 wildcats. Of these, 64 were oil wells, 30 were gas condensate wells, and 39 were "dusters," or dry holes. Altogether last year, Humble crews drilled more than 1,383,000 feet of hole in search of Louisiana oil—more than 260 miles of hole! Our daily production of oil in the state as of January 1, 1953, was 41,704 barrels, plus 4,136 barrels of condensate daily.

Humble operates 28 rigs in Louisiana, ten of them Company-owned. Nine large barge-type rigs are used for marine operations in inland waters.

ONE of Humble's natural gasoline plants is located at Opelousas. Here operators "strip" the liquids from piped-in wet gas and put the dry gas into pipe lines for delivery and sale by others. Operations at Opelousas began in 1949, and the plant is now handling more than 175 million cubic feet of gas per day.

Humble has 591 field employees in Louisiana. Some 142 employees work at the Louisiana Division Office at New Orleans, which also serves operations in Florida, Alabama, and Mississippi. In the latter three states last year, Humble drilled 36 oil wells, 6 gas condensate wells, and 31 dry holes.

Since 1901, with the discovery at Jennings, oil has figured strongly in the economic life of Louisiana. It is now the state's most important industry, as well as the state's largest employer, with oil and gas payrolls amounting to more than $200 million a year. Louisiana now ranks third among states in the U. S. as an oil producer, with about ten per cent of the national production.

Humble, competing with others in the Louisiana oil business, expects to continue its growth and progress, doing its part to create an even greater measure of industrial expansion and development within the Pelican State.

Senior sire in Luling Foundation's herd of Santa Gertrudis is this bull which came from the Richard King Ranch. The 'S' brand on right hip signifies that the animal has been inspected and officially classified as a Certified Santa Gertrudis.

SANTA GERTRUDIS

America's first new breed of beef cattle, developed on King Ranch in Texas, is spreading like a prairie fire

SOUTH Texas was in the midst of one of the worst drouths anybody could remember. Months of dry heat had scorched all vegetation on the vast rangelands and pastures. Hot winds whipped at the bare spots, filling the air with stinging sand and flying dust.

At his Kingsville headquarters, Robert J. Kleberg, Jr., manager and part owner of the 940,000-acre King Ranch, picked up a telephone and put in a call for Ed Durham, boss of the Norias Division, 40 miles to the south.

"How are the cattle making out down there?" Kleberg asked.

"Oh, the cattle are doing fine," Durham replied. "It's the land I'm worried about."

Bob Kleberg couldn't keep from smiling at this unusual tribute to the hardiness of the big red Santa Gertrudis cattle. These hardy range animals had been "doing fine" under all kinds of conditions ever since the first of the breed was born, back in 1920.

That historic animal was a magnificent cherry-red cross-bred bull calf who had inherited the best qualities of both his mother and sire. (The mother cow was one-sixteenth Brahman and fifteen-sixteenths Shorthorn; the sire was a seven-eighths bred Brahman bull.) Even the cowboys who branded this big red calf with the familiar Running W brand in the fall roundup of 1920 knew that he was something special.

And special he was! Under the whimsical name of "Monkey," he was to become famous as the original Santa Gertrudis, progenitor of the first officially recognized new breed of beef cattle ever developed in the United States, and the first new beef breed to be developed anywhere in the world in more than a hundred years. Within three decades, thousands of Monkey's descendants, all bearing his distinctive characteristics, would be grazing and growing fat in widely scattered areas of the world.

The birth of the great bull, Monkey, climaxed more than 25 years of effort on the King Ranch to develop a better type of beef animal for South Texas ranges.

When Captain Richard King established the ranch in 1853, the only cattle known to the area were the tough and rangy Longhorns, descendants of the cattle brought to the New World by early Spanish explorers and mis-

Good bulls in this lot at King Ranch have been carefully selected for use in the ranch's breeding program. Bulls from the Running W herds are in great demand by Santa Gertrudis breeders and cattlemen seeking to grade up commercial herds.

sionaries. Nature had adapted them for life on the open range. They could withstand drouth, insects, heat and sparse grazing.

Unfortunately, the Longhorn was not a good beef-type animal. The meat on his lean carcass was likely to be almost as tough as the hide it was wrapped in.

SEEKING to improve the quality and quantity of its beef, the King Ranch, in the early 1880's, began to grade up its herds with English breeds, Shorthorns and Herefords. Gradually the Longhorns disappeared, and by 1916, when the program was completed, the ranch herds consisted of some 25,000 Herefords and 25,000 Shorthorns.

But in the grading up process, many of the desirable characteristics of the Longhorn were lost. The English cattle, originally developed for the lŭsh pastures and gentle climate of the British Isles, did not adapt well to the subtropical heat and harsh range conditions that existed on the King Ranch.

Calf crops diminished alarmingly, year after year. In the decade after the turn of the century, Robert J. Kleberg, Sr., who had succeeded his father-in-law as manager of the ranch, began to wonder whether it would become necessary to resort again to Longhorn blood to restore hardiness into the herd.

A crisis was averted by the introduction of still another type of cattle—the Brahman. These hump-backed Indian cattle—genetically different from the English breeds—were large, hardy animals with a singular indifference to heat and insects.

Experiments proved that the Brahmans could be crossed satisfactorily with English breeds to produce hybrid calves that were large, hardy and prolific. Hot weather and insects did not affect them, they grew fat on grass alone, and they withstood periods of drouth without damage. They were, in short, the best range animals yet seen on the King Ranch.

Faced by these facts, the Klebergs resolutely turned their backs on some 40 years of effort to build up purebred herds and launched a new and extensive program of cross-breeding Brahmans to Shorthorns and Herefords.

But cross-breeding was not a completely satisfactory method for the large scale King Ranch operations. It required maintaining separate herds, and there was a lack of uniformity in the calves. Like most hybrids, the first-cross calves seldom transmitted their improved qualities to their progeny.

In 1918, Robert J. (Bob) Kleberg, Jr., and Richard M. Kleberg, Sr., who were assisting their father in the management of the King Ranch, decided to try to develop a new breed from the Brahman-Shorthorn cross. From their extensive studies of genetics and the histories of other breeds, the Klebergs knew that success depended upon finding a prepotent individual—a bull with all the desirable characteristics and possessing the ability to transmit those characteristics to his descendants.

When that calf, "Monkey," showed up two years later, the Klebergs recognized his potentialities and singled him out for a special breeding program. The first calves sired by Monkey out of cross-bred King Ranch red cows proved that he was indeed the long-sought prepotent bull.

Now came the ticklish phase of the project. In order to hold the characteristics of Monkey and build up a breeding herd, it was necessary to carry out a well-planned program of line-breeding and, in some instances, in-breeding. Monkey was bred to carefully selected top cows, then to some of his own daughters and granddaughters. His best sons also were bred to his best daughters, and succeeding generations were

On arid range of Southwest Texas, hardy Santa Gertrudis eat prickly pear cactus from which thorny spines have been burned.

In lush clover pasture at Magnolia Plantation, in Georgia, transplanted Santa Gertrudis from Texas thrive and grow fat.

inter-bred until a pure breeding herd was established. Every animal in the herd is a direct descendant of Monkey.

By 1940, the big red cattle had proved that their distinctive characteristics were firmly fixed and that they would continue to breed true to type. Named Santa Gertrudis (from the original Spanish land grant on which the King Ranch was established) the new breed was officially recognized by the United States Department of Agriculture.

AS MIGHT be expected, the development of the distinctive red beef animals on the King Ranch was observed with interest by other cattlemen, especially those whose ranches had climate and range conditions similar to the King Ranch. Even before the breed became officially recognized, the Klebergs were being besieged with requests from other ranchers to sell bulls from the Santa Gertrudis herd.

At first, all such requests had to be denied. The foundation herd was so small there just weren't any animals to spare. The ranchers' names were put on a waiting list. Later, when the herd had multiplied enough to permit selling a few yearling bulls, the waiting list far exceeded the number of bulls available.

And the list is still long, despite the fact that for many years now the King Ranch has been selling bulls to the waiting ranchers on a regular basis. These animals are a standard grade of purebred Santa Gertrudis bulls suitable for grading up range herds. The King Ranch makes a standard charge for all the bulls sold in this program.

Without interrupting that established policy, the Klebergs in 1950 decided to offer a few of their choice bulls for sale at auction. The bulls selected were comparable to those retained for use in the King Ranch herds. Such a sale, they reasoned, would give ranchers an opportunity to evaluate the King Ranch bulls, and would also enable breeders to buy these choice animals without delay.

Two thousand ranchers turned out for that first auction sale, which was held in November, and the 29 bulls offered sold like hot cakes for a total of $99,000. One animal brought $10,000.

The event proved so popular that the King Ranch auction sale has become an annual event. In the 1951 sale, 25 bulls were offered. They brought an average price of $8,502, and the top animal sold for $27,200. Last year, 21 bulls were sold at the auction for a total of $180,250. The top price paid for one animal was a cool $40,000.

Such prices are remarkable in view of the fact that these were not prize-winning show bulls. Furthermore, the 1952 sale was held in the face of a seriously declining cattle market, and in the midst of one of the worst drouths in the history of the Southwest's cattle industry.

Obviously, the new breed of cattle, developed to meet range conditions on the King Ranch, has become popular with many cattlemen elsewhere. Some idea of the extent of this spreading interest was determined in 1951 when an association of Santa Gertrudis breeders was organized. To everyone's surprise, there were 166 qualified charter members of the Santa Gertrudis Breeders International. They represented seven states, Cuba, and Colombia, South America. In Texas alone there were 134 charter member breeders. Two years later the membership list had climbed to 321, of which 241 were in Texas.

The fact that there could be so many Santa Gertrudis herds only three decades after the birth of the founding sire of the breed is a significant testimonial to the prepotence of Monkey. The Klebergs have never sold a female Santa Gertrudis off the King Ranch. For many years other breeders had no way of establishing a herd of Santa Gertrudis except to start with a few Running W bulls and use them to grade up whatever type of cattle they already had.

Bull, cow, and calf at King Ranch are direct descendants of Monkey. Bull is Coton, 17-year-old great-grandson of Monkey.

One of the important advantages of the Santa Gertrudis breed is the vigor of the bloodline. A rancher with any type of cattle can introduce a good Santa Gertrudis bull into his herd, then breed the resulting heifers back to Santa Gertrudis bulls for four generations, and he will then have, for all practical purposes, a purebred Santa Gertrudis herd.

ONE of the first ranchers to put this principle into practice outside the King Ranch was Jack Maltsberger of Cotulla, Texas. His ranch is located in an area of Southwest Texas where heat, drouth, and harsh range conditions are often extreme.

As early as 1928, Jack Maltsberger had seen the big red descendants of Monkey on the King Ranch and had sought to buy some of the bull calves. Not until 1934, however, was he able to purchase his first group of 44 yearlings. He bred these bulls to his herd of cross-bred Durham-Brahmans, then continued to breed the best of each succeeding generation of heifers to King Ranch bulls until he had established his present herd of 1,000 Santa Gertrudis.

The Maltsberger herd offers a good example of the hardiness of the Santa Gertrudis breed. In 1952, the third year of drouth in the Cotulla area, less than eight inches of rain fell on the Maltsberger ranch. And that was concentrated into two downpours in the month of May. After that came the hot summer weather. Soon there was nothing left on the range for cattle to eat except prickly pear, and the handful of cottonseed cake the ranch hands put out for each animal daily. Even under such extreme range conditions, the Maltsberger herds have remained in remarkably good condition.

Another Santa Gertrudis herd in the same vicinity that has fared well on a prickly pear diet is that of Robert W. Briggs & Son at Catarina, Texas. Mr. Briggs, who also owns and operates the Broken X Ranch near San Antonio, headed the syndicate of Santa Gertrudis breeders who paid $40,000 for a bull at the King Ranch auction sale last November. He also paid $11,000 by himself for another bull in the sale.

Bob Briggs became interested in the Santa Gertrudis breed in 1941, when he bought a Running W bull from the

Entire herd of Santa Gertrudis cattle was moved by rancher John Armstrong from South Texas to greener Alabama pastures.

King Ranch and crossed it experimentally with some of his Hereford cows. On the basis of results of this experiment, he decided to grade up his 600-head herd of Herefords into Santa Gertrudis by top-crossing through four generations.

Although the Santa Gertrudis breed matures early, it still takes from 12 to 16 years to complete a program of four top-crosses. Cattle cannot be remodeled in a hurry, because nature must take its course.

Despite the fact that Bob Briggs has not yet reached the third generation in his grading up program, he has established a sizable purebred Santa Gertrudis herd by other means. Ten years ago he was able to buy a group of female Santa Gertrudis from the herd of Richard King, a cousin of Bob Kleberg and grandson of the founder of the King Ranch.

In a partitioning of the King Ranch among heirs in 1935, Richard King received one division of the Ranch, and a part of the herd of red cattle. The females in this Richard King herd are the only Santa Gertrudis females directly descending from the nucleus foundation herd that have ever been sold to outside ranchers.

The scarcity of purebred females has been one of the major handicaps in the expansion of the Santa Gertrudis breed. Few breeders, with the exception of Richard King, have yet developed large enough herds to permit selling off many of their pure Santa Gertrudis heifers.

To help relieve this bottleneck, some of the established breeders in Texas last year jointly put up heifers for sale at auction. Three such auction sales were held. In Kleberg County F.F.A. and 4-H Club boys sold 17 heifers at auction for an average price of $2,400. One heifer brought $6,000. At the LaSalle County Santa Gertrudis Breeders sale, the heifers brought an average price of $1,365. And at the consignment sale held by several breeders at the Briggs ranch near San Antonio, the average price was $1,650.

PRESIDENT of the Santa Gertrudis Breeders International is Major Tom Armstrong, a brother-in-law of Bob Kleberg, and manager of the century-old Armstrong Ranch which adjoins the King Ranch.

The Armstrong Ranch started changing over from Shorthorns and Herefords to Santa Gertrudis in 1942 with the purchase of 21 bulls from the King Ranch. Since that time the Armstrongs have bought several hundred Running W bulls from the King Ranch, in addition to a number of female Santa Gertrudis from the Richard King Ranch. Senior sire in the Armstrong's purebred herd is a 12-year-old grandson of Monkey, named Partido.

One division of the Armstrong Ranch is located hundreds of miles away on the banks of the Mississippi River in Louisiana. This is beautiful Oak Alley Plantation, bought by Tom Armstrong's sister, Mrs. Josephine Stewart, about 20 years ago and converted by her into a cattle ranch. After stocking the place with cattle from the Armstrong Ranch, Mrs. Stewart in 1938 received a Santa Gertrudis bull as a gift from Bob Kleberg. She later bought more Running W bulls and established a purebred herd of Santa Gertrudis. In 1951 Oak Alley was merged with the Armstrong Ranch.

Still another member of the Armstrong family has helped spread the Santa Gertrudis breed far from South Texas ranges. This is John B. Armstrong, nephew of Mrs. Stewart and Major Tom Armstrong. His ranch is located near Selma, Alabama, in an area of lush grasses and ample rainfall.

John Armstrong brought his herds of 200 Santa Gertrudis and 200 grade cattle to Alabama in 1950, one of the many Texas ranchers seeking to escape the dire drouth that plagued the Southwest. He purchased 200 common Alabama cattle along with the 5,000-acre place, and is now in the process of grading up the entire herd to Santa Gertrudis.

Although the breed was originally developed for semi-arid conditions on the King Ranch, the Santa Gertrudis has quickly adapted itself to the more humid climate and lush pastures of the Southeast. John Armstrong's animals, after a brief readjustment period, are thriving on grass and

First-cross heifers from Hereford cows and Santa Gertrudis sires at Bob Briggs' ranch retain some whiteface markings.

Second-cross heifers at Briggs ranch show Santa Gertrudis characteristics strongly; only a few have touches of white.

clover such as they never dreamed of back on the dry ranges of South Texas.

That the Santa Gertrudis could adapt himself to good pastures and cooler climate than his original habitat on the King Ranch was demonstrated shortly after World War II when the hoof-and-mouth disease broke out in Mexico. Concerned with the possibility that the disease might cross the Rio Grande into Texas, Bob Kleberg took measures to protect the nucleus of the Santa Gertrudis breed. He shipped a "Noah's Ark" herd of the foundation stock from the King Ranch to the safety of a bluegrass farm near Lexington, Kentucky. This segment of the foundation Santa Gertrudis herd has remained in Kentucky since that time and has suffered no ill effects from the change of climate.

The success of that Kentucky herd has been an encouraging influence in the spread of the breed throughout the South. With the exception of North Carolina every state south of the Mason-Dixon line now has one or more herds of pure Santa Gertrudis.

One of the outstanding herds in Georgia is at Magnolia Plantation, model livestock farm near Albany, owned by Wade T. Childress, a retired businessman from "up North."

Spitball, Santa Gertrudis bull owned by J. Arthur Pancoast of Uleta, Florida, was twice champion at Florida State Fair.

Mr. Childress bought the old plantation several years ago, built up the pastures and fences, then began an open-minded investigation to determine what kind of cattle to raise.

After months of comparing breeds and visiting various ranches, including the King Ranch in Texas, he decided to become a Santa Gertrudis breeder. With the help of Wayman Holton, another Georgia Santa Gertrudis breeder, Mr. Childress managed to buy a group of some 120 cows and heifers from various Texas Santa Gertrudis herds along with some Running W bulls. He now is carrying out a careful program of herd expansion and improvement, and eventually expects to build up a purebred herd of more than 200 head.

BUT it is in Florida that the Santa Gertrudis has made its biggest numerical gains outside of Texas. The big red cattle were first introduced into the humid Florida area about 12 years ago and their popularity has increased steadily.

In this area, where there are vast rangelands without adequate drainage, the inherent ability of the Santa Gertrudis to withstand heat and rough grazing stands it in good stead. The native grasses grow tall on this sandy flatland, but they are weak in nutritive values and become coarse and unpalatable as they mature.

For many years, the only cattle on these rangelands were the common "Florida cattle," descendants of the early Spanish cattle. Small in size and not built for beef production, their principal advantage was hardiness. A distinctive feature of the Florida cattle was a barrel-like stomach which enabled them to consume the great quantities of the weak range grasses necessary to give them sufficient nutrition.

The quality of these range herds has been steadily improving in recent years following the introduction of improved breeds, notably Brahmans and Santa Gertrudis.

One of the first of the Florida ranchers to foresee the potentialities of the Santa Gertrudis breed was Tom C. Montgomery of Arcadia. He bought two bulls from the King Ranch in 1941, put them into a herd of 50 half-bred Brahman Shorthorn heifers, then used the first-cross bulls on his range cattle. He has continued to buy new bulls from the King Ranch, and since 1945 has used no bulls in his herds except Santa Gertrudis. In addition to his

Changing pastures at King Ranch, these calves show uniformity that is one of the characteristics of the Santa Gertrudis breed.

commercial herd of several thousand head, Mr. Montgomery has a sizable herd of purebreds.

It is not unusual now for a yearling calf in the Montgomery herd to weigh as much as a mature cow used to weigh in the days of the common Florida cattle.

Another prominent Santa Gertrudis breeder in Florida is J. Arthur Pancoast of Uleta, near Miami. The Pancoast herd was started in 1943 with the purchase of a group of heifers from the late Worth Wright (former top foreman at the King Ranch) and several King Ranch bulls. In addition to his commercial herds, Mr. Pancoast now has a breeding herd of more than 100 cows, and is one of the few breeders far enough advanced in his program to enable him to sell heifers. Demand for these females is great, but he never sells more than 6 heifers to one rancher. That permits more ranchers to acquire the coveted animals.

One pasture on the Pancoast farm is reserved for what he calls his "sample case herd." This consists of four two-year-old steers, each from a different type of mother cow, and sired by a Santa Gertrudis bull. One steer is from a common cow, one from a Hereford, one from a Shorthorn, and the fourth from a Santa Gertrudis. This sample-case herd provides an ideal means of answering the question so often asked by visiting ranchers: "What kind of steers would I get if I crossed a Santa Gertrudis bull with my kind of cows?"

Most widely known animal in the Pancoast Santa Gertrudis herd is a 2,070-pound, 3-year-old bull named "Spitball." He has won championship honors in the open class at the Florida State Fair stock show for the past two years, and was reserve champion as a yearling.

In addition to the herds in the Southern States there are scattered representatives of the Santa Gertrudis breed from California to Massachusetts.

BUT it is not only in this country that the great red cattle are attracting interest. Long before the Santa Gertrudis was officially recognized as a breed, the King Ranch sold a carload of bulls to E. J. Barker, owner of a cattle ranch on the island of Turiguano, off the coast of Cuba. Mr. Barker used the bulls on his native cattle, and has since graded up a large Santa Gertrudis herd. So successful has the breed proved in this hot and humid climate that several other Cuban ranches have adopted them.

Last year the King Ranch gave impetus to this growing interest by establishing, in association with a Cuban sugar company, a 30,000-acre Santa Gertrudis ranch in the province of Camaguey. Stocked with herds of high grade cattle from the King Ranch in Texas, this Cuban ranch operates as a commercial cattle enterprise.

Because of their heat tolerance, resistance to insects, and ability to thrive on grass alone, the Santa Gertrudis cattle are now spreading into many of the Latin American countries. One of the charter members of the international breeders association is Enrique Lievano of Bogota, Colombia. Avila Comacho, former president of Mexico, is among the many Latin American ranch owners who are now using Santa Gertrudis to improve beef production on their ranges.

Sample case herd of steers at Pancoast farm in Florida demonstrates results of crossing Santa Gertrudis bull with different kinds of cows. From left to right, these steers were from common cow, Hereford, culled Santa Gertrudis, Shorthorn.

Even the balmy isles of the Pacific are not foreign to some members of the Santa Gertrudis family. There is a herd of the big red cattle on an island ranch in Hawaii.

But the longest trip yet made by any of Monkey's descendants is from the King Ranch in Texas to far off Australia. A lone Santa Gertrudis bull made the first trip more than 20 years ago. He was the gift of Bob Kleberg to some Australian cattlemen who were buying a shipment of Brahman bulls from the King Ranch. The Santa Gertrudis breed was unknown at that time, so nobody made any special efforts to grade up a herd from this bull. The Australians did, however, take note of the bigger and better calves sired by the big red bull.

Largely as a result of this incident, a group of Australian cattlemen last year formed an association with the King Ranch for the purpose of establishing the Santa Gertrudis breed in Australia. Two companies were formed, one to operate a breeding farm stocked with purebred Santa Gertrudis shipped direct from the King Ranch in Texas. The other company operates commercial herds only, using Santa Gertrudis bulls from the breeding herd.

Husky calf, sired by a Santa Gertrudis bull, shows remarkably better conformation and size than common cow mother.

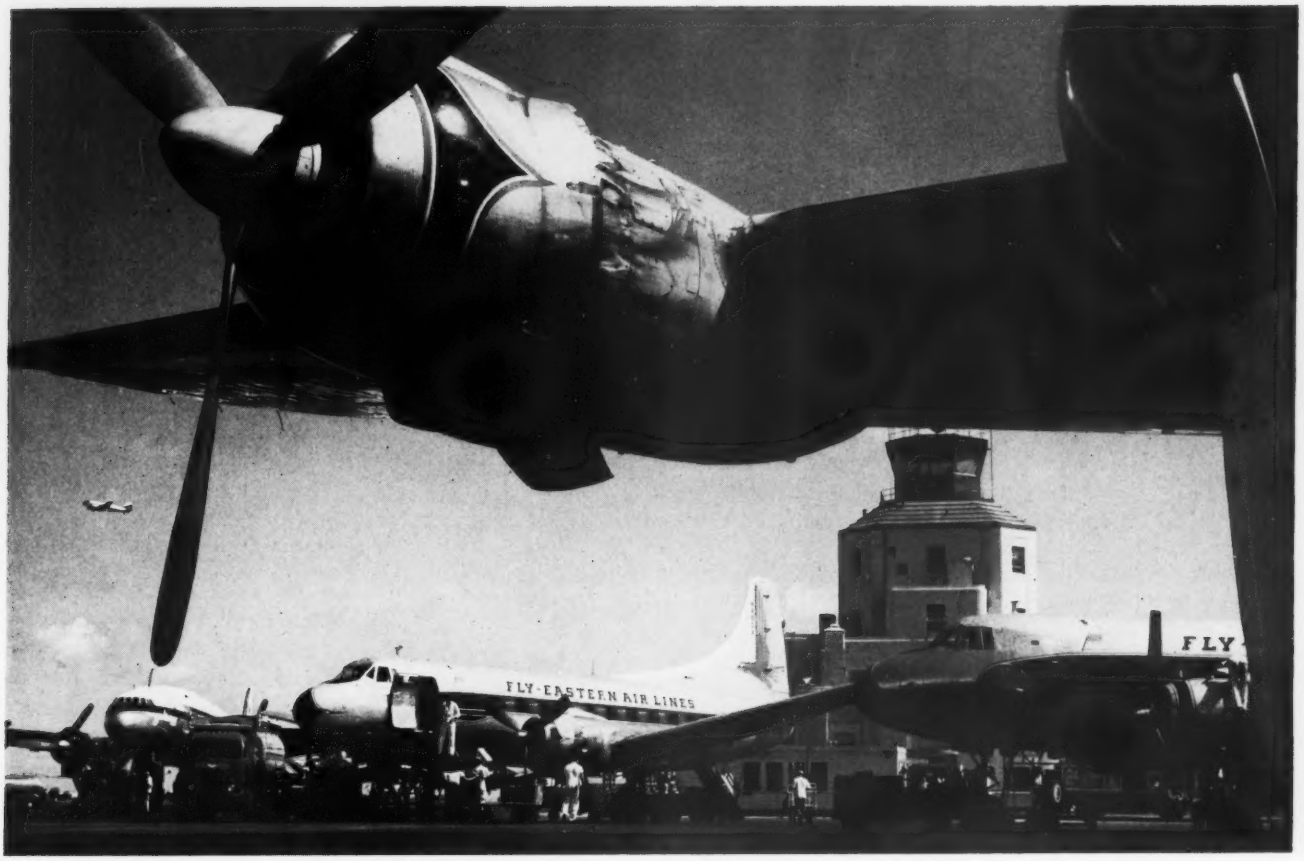
As more and more breeding herds of Santa Gertrudis are established in various parts of the world, it becomes easier for commercial cattlemen to obtain bulls for improvement of their herds. But since a first-cross or second-cross bull calf out of a cow of another breed may often have all the apparent characteristics of a purebred Santa Gertrudis, it has been necessary to set up some means of protecting the breed from misrepresentation and maintaining a standard of excellence.

This is the function of the Santa Gertrudis Breeders International. Under the rules of the Association no animal can be *certified* as a purebred Santa Gertrudis until it has passed a rigid inspection and unless the owner can prove that it is a descendant of Monkey. (Bulls must be descendants of Monkey on both sire and dame side; females may be certified if they are the result of four top-crosses from pure Santa Gertrudis sires.)

Animals that cannot come up to all the rigid requirements of the certified purebred category may be classified as *accredited* Santa Gertrudis. In all cases, however, an individual inspection of the animal is required for classification.

Most breeders of Santa Gertrudis cattle—although they acknowledge that there are many other excellent breeds—seem to have a glowing conviction that they are in on the ground floor of a great and significant movement. They see in these big red beef animals the solution to many problems that have long confronted livestock producers, especially in tropical and subtropical climates. They point out that this breed is increasing beef production per acre in many areas, and doing it on grass without extra feeding. To cattlemen in certain marginal rangeland areas, the Santa Gertrudis is proving to be the difference between profitable and unprofitable operations.

It looks like that bull, Monkey, really started something!



Airliners unload as still others roar in during a rush hour at Houston Municipal Airport. These "peak periods" when airline flights converge to exchange passengers and cargo pose a tough service problem: how to refuel quickly, get them off the ground.

GETTING THEM OFF THE GROUND

Airlines, airports, and the oil industry seek an answer to an air-age problem—fueling planes during peak traffic

SUNLIGHT streaming through the glass walls of the aircraft control tower at municipal airport showed the hands of the clock approaching 5 p.m.

The Chief Controller squinted into the distant blue. "Better have that smoke now," he suggested to his assistants. "Here comes the afternoon merry-go-round."

His words were hardly out when the tower radio blared into action:

"Tower, this is American Airlines 400 at Jackson Intersection."

Back crackled a message with landing instructions, and then came another call from an incoming airliner, and then another, and another. Braniff, Pan American, Pioneer, Delta-C&S, and American airliners swooped to the runway—ten, twenty big airships, one immediately behind the other—and taxied up to the unloading ramp.

As the propellers whirled to a coughing stop, a swarm of service vehicles raced to the ramp and descended upon each airplane like ants around a sugar bowl. The entire ramp area crawled with traffic, as congested as a downtown intersection.

It was indeed the "afternoon merry-go-round"—the airport rush hour, the "peak period" necessary for interchange of passengers, mail, and other cargo.

To the passenger, "peak period" simply means meeting the plane which will fly him on to his destination. To the postman and shipper, it means speeding the mail and air freight onward with little delay. But to the men who must service the planes, "peak period" means *"problem."*

One airline ground service official put it this way: "If our planes stay on the ground more than 30 minutes, we're losing money. That means we have only 20 minutes or so to unload, load, service, and fuel each plane during peak periods—and fueling is by far the greatest problem!"

Not so in the "old days" of airline operations. For example, one type of

Ten-passenger Fokker F-10-A, used from 1927-1933, carried 360 gallons of gasoline. Today's 4-motor airliners may carry more than 4,000 gallons in eight separate tanks.

tri-motor transport, used by a major airline from 1927-33, carried 360 gallons of gasoline in two tanks. Even with old methods this small quantity could be quickly supplied. But today a four-motor airliner may carry more than 4000 gallons of gasoline in eight tanks, each with a separate filling point, located in the wings almost 20 feet above the ground. Complications? Definitely —and tomorrow, jet airliners may carry twice this amount.

BUT airplanes are not the only factor which has changed. Our airports of yesteryear had perhaps three daily airline flights; today a major port may have more than 100. Like particles drawn to a magnet, the silver ships converge in groups, timed for connecting schedules. "Peak periods" with their fueling problems are the result.

What is the answer? The oil industry, airlines, airports, and equipment manufacturers, working together, have been seeking one for some time.

Today, most aircraft fueling is done by the familiar tank truck, a natural development from other phases of the oil business. The problem here, as stated by an airline service manager, is to "gas as many airplanes as possible with as few people as possible with as few trucks as possible in the shortest time possible."

The truck has one big advantage in its favor: mobility. It can go to the airplane anywhere on the field. For this reason it will always be useful, airline men think, though to what extent remains to be seen.

For the truck also has some disadvantages: it may run out of gasoline itself in the midst of a "peak period," and have to spend 30 to 40 minutes refilling. It requires storage of a large amount of gasoline near the runways during flight operations, yet its capacity —usually 4000 gallons—seriously limits its usefulness as airplanes carry more and more fuel. Big and bulky, it invites the possibility of collision with planes or other vehicles on the ramps.

A more recent fueling method—again, suggested by other operations of the oil industry—is the pit system. Here, pipe lines are laid beneath the runways to each airline parking position where a pit with a removable cover is located. In the pit are separators, filters, hose, and other equipment for refueling the plane.

The pit system requires no vehicles at all—and herein lies its greatest advantage. No fuel is stored on the ramps; there's no danger of collision, and no expensive maintenance of heavy "rolling equipment." Furthermore, a pit never "runs out of gas," for plenty of storage capacity can be located off the field—a great advantage for the "jet age" of the future.

However, three grades of gasoline must be furnished for airliners—some use 91 octane, some 100, some 115—but high costs and limited space restrict each pit to one set of filters and hose. Thus when switching from one grade to another, the fuel in the filter and hose is mixed with the gasoline being delivered. This mixing of different grades of fuel is a problem today, but will become more so when jet fuel, similar to kerosene, must be furnished along with high octane gasoline.

Cramped working space causes trouble in the pits, too. "We practically have to hire small boys," says the manager of a pit installation. But even big men find the pit covers hard to handle, as they must be heavy to support heavy aircraft. The large number of complete units and their location underground make maintenance another problem.

After the war, looking ahead to more and bigger aircraft, men in the oil industry began searching for a new approach to the airline fueling problem. Some considered larger trucks, some considered refinements of the pit system. Out of this research came a new development—the hydrant system, now in use at several major airports.

Everyone knows about water hydrants, but *gasoline* hydrants had to await development of special valves for both hose and hydrants—valves which would prevent any dangerous leakage from *either* when connecting and disconnecting.

THE hydrant system, like the pit system, uses a network of pipelines under the ramps, with pumps and storage off-field. But instead of pits, there are covered hydrants—one for each grade of gasoline—under both wings of each plane at all parking positions.

Filters, hose, and other equipment is installed aboard small, open trucks, usually called hose carts. In fact, hand-drawn carts may be used! Thus, while pits require a complete set of costly fueling equipment at each location, a few sets of the same equipment *on carts* can serve the same number of fueling points—a great money saver. At one new airport eight carts serve 36 parking positions.

The hydrant system, ready for the "peak periods" of the future, can deliver a heavy volume of fuel at pumping rates up to 300 gallons per minute. There is no mixing of fuels, as different carts are used with the different grades. There is no gasoline storage on the

Tank trucks refuel airliners at most airports today, but are being challenged for the job by new fueling systems. This Humble tank truck is at Love Field, Dallas.

Pit fueling system, Washington National Airport, supplies gasoline by pipe line.

field, no heavy vehicles. The small carts, comparably safe to operate on the ramps, are easily maintained.

Thus the hydrant system combines some of the advantages of both the truck and pit systems. It has won much favor because of its flexibility, safety, speed, and economy. However, each system has its champions, and the final answer depends on the future of aviation.

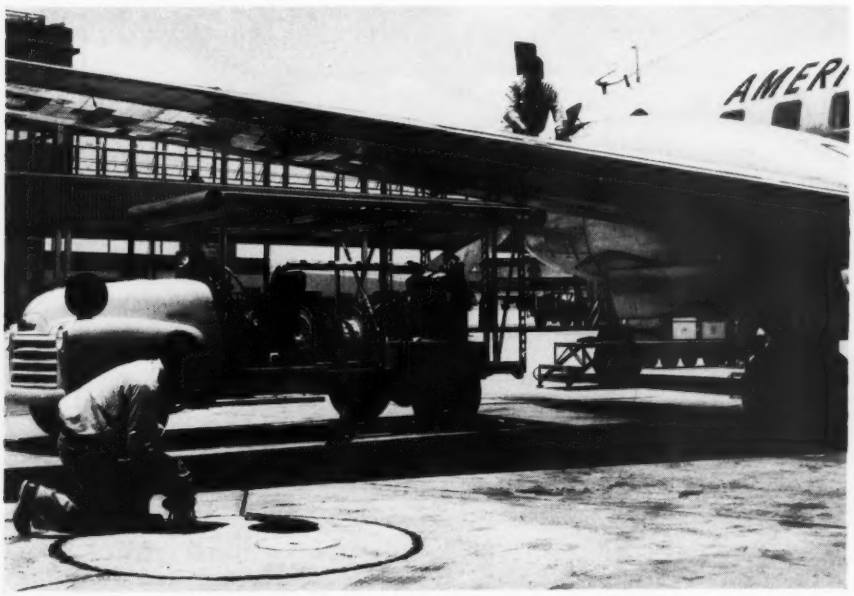
One thing is certain: part of the answer to the fueling problem lies in the airplanes themselves. A service man today must climb a ladder or high platform to the top of the wing, and fill a number of tanks one at a time. This is a stumbling block in any type of fueling system, but two developments are expected to speed up the process:

First, aircraft designers are planning a "pipe line" system within the plane, so tanks may be filled from a few points.

Second, they plan to locate these fueling points beneath the wing or in the fuselage, within easy reach of a serviceman on the ground.

These plans, taken together, should help untie the knot. Working cooperatively, the oil and aviation industries are striding toward a solution to the "plane problem"—getting 'em off the ground.

Newest fueling development is the hydrant system, with pipe lines reaching to fuel hydrants at each parking position. Equipment travels to hydrants on small trucks.



Close-up of gasoline hydrant at the new Greater Ft. Worth International Airport.

Across this graceful bridge, which spans the Rio Grande at Laredo, pass the many thousands of vacationing tourists who visit Mexico from the United States each year. This is one of five major highway bridges linking Texas to interior Mexico.

Gateway to Mexico

Geography and History Make Texas a Natural Funnel And Conditioning Ground for Mexico-Bound Tourists

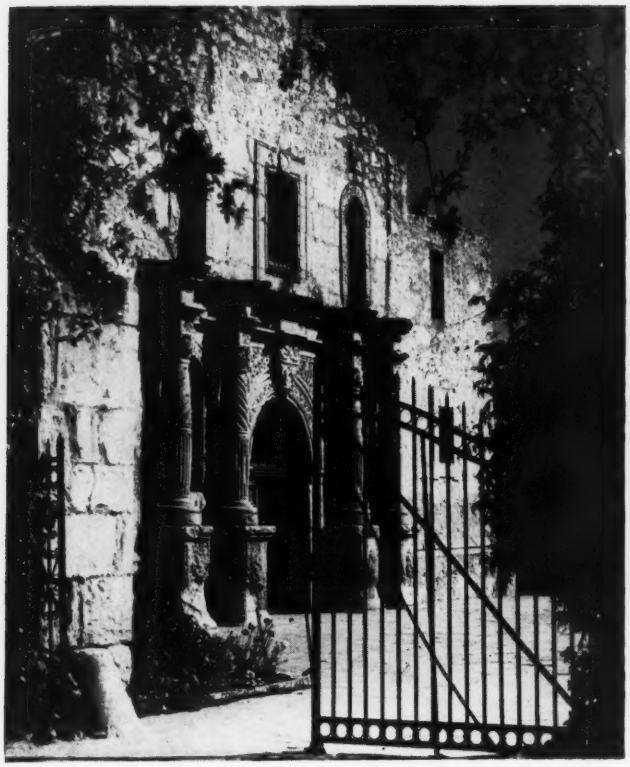
San Jacinto Monument, near Houston, marks the site of an historic battle.

MOST of the tourist tide into Mexico from the United States swells, by mandate of geography, through Texas. But the Lone Star State is more than a land funnel for thousands bound south of the border. History, music, folklore, customs, and local scenery make Texas a conditioning ground to whet vacation appetites, to give tourists a taste of Mexico while they are still enroute to the Rio Grande.

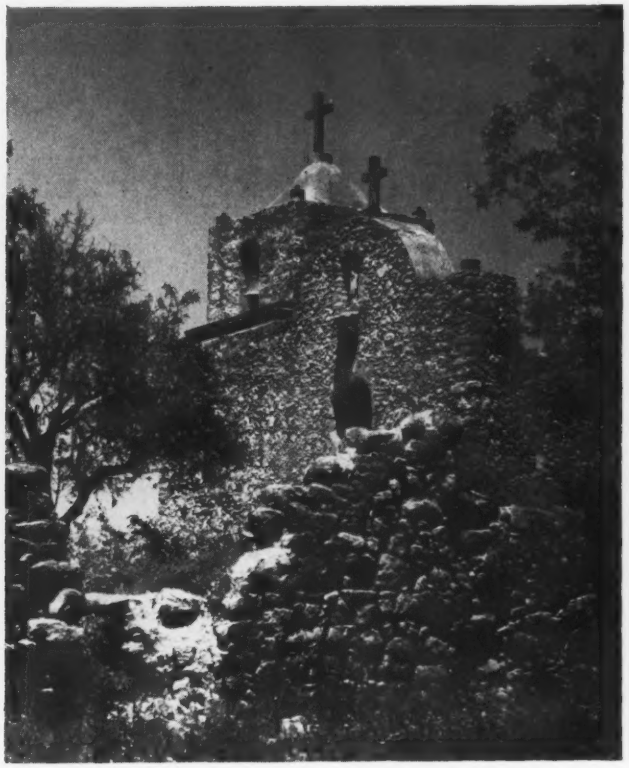
Indeed, there is so much of Mexico mixed into the Texas scene that the transition is almost imperceptible; the two countries seem to blend into one as travelers near the border. One might suspect that of a land which was once under Spanish, and later under Mexican, rule.

To keep the Spanish flavor and atmosphere visibly present before the tourist as he moves southward toward the Rio Grande, ancient and stately missions dot the Texas landscape. Interspersed with them are occasional forts, their crumbling walls and gun-mounts attesting to dark deeds and early encounters between Spanish legions and the *filibusteros,* or soldiers of fortune. Wide-eyed youngsters in the Southwest place stories of those battles and legends about *brujas y banditos* (witches and bandits) on a par with Grimm's *Fairy Tales.*

Sprinkled along roadsides stand fur-



The Alamo, famous shrine of Texas independence, is visited by many Mexico-bound tourists on the route through San Antonio.



La Bahia chapel and crumbling walls of the Presidio, near Goliad, recall the days when Texas was under Spanish rule.

ther evidences of the kinship between Texas and Mexico. Here and there, stone markers carry brief accounts of locations and events important to the two countries dating back as far as the 18th century. Towns along the route sing with musical names drawn from the easy cadences of the rich Castillian language . . . San Antonio, Roma-Los Saenz, Los Fresnos, Corpus Christi, San Perlita.

In these places, private homes and public buildings alike follow the functional style and warm sun-tones of Spanish architecture.

Awareness of ties that bind the histories of Texas and Mexico comes when tourists stand for the first time within the hushed and hallowed chambers of the Alamo, the Cradle of Texas Liberty. They feel the impact of an ancient culture when first they look upon the delicate, almost lace-like, lines of the famous Rose Window at the old Mission San Jose, near San Antonio.

Looking down from the lofty height of San Jacinto's memorial shaft near Houston, one can almost hear the thunder of distant guns upon the battlefield below, where Texas freedom was finally won. That warlike atmosphere is heightened by an hour's visit farther along the way at Presidio La Bahia, near Goliad. Inside and near the old fort's crumbling walls were fought some of the cruelest battles of the turbulent period before the revolution.

On down into the southern tip of Texas, the flavor of Mexico becomes even stronger. Here the soft tones of Spanish are heard almost as much as English. Even the highway traffic signs are bilingual.

When the vacationing family comes at last to the border at the Rio Grande, it has no feeling of the need to make an abrupt transition to a strange land. The stage is already set, the scenery familiar.

The tourist's task of making ready to cross the border is made easier by Humble Touring Service. Entry papers are prepared at either the Laredo or Brownsville office. Marked maps are supplied; money is exchanged for him; all sorts of information are his for the asking, and everyone is sent on his way across the Rio Grande feeling that he is completely prepared and equipped, physically and mentally, for an interesting and exciting stay in the land of the Aztecs.

Rose window at San Jose Mission, San Antonio, is Spanish architectural gem.

Mexico-bound tourists stop at Humble Touring Service office in Brownsville.

David B. Harris To Retire

In 34 years with Humble he advanced from laborer to one of Company's top executives

LATE in the Spring of 1919, a resolute young war veteran took a job as laborer with Humble Oil & Refining Company in the booming oil town of Ranger, Texas.

His name was David B. Harris; he held an engineering degree from Texas A. & M. College (class of 1909); and before the war he had worked in a Houston bank. Now, he said, he wanted to learn the oil business.

At farewell party in Houston, retirement book and set of golf clubs are presented to Mr. Harris by H. K. Arnold, Company secretary and assistant treasurer.

This summer, after 34 years of outstanding service—in which he "learned the oil business" so well that he rose to one of the top executive positions in the Company—Dave Harris is retiring from Humble. His retirement as Vice-President, Director, and Treasurer of the Company becomes effective August 9, following a final vacation trip to Europe.

The story of Dave Harris' career with Humble is an inspiring one. It spans one of the most colorful and significant periods in the history of the oil industry—a period in which the industry outgrew the helter-skelter ways of its turbulent youth and, with maturity, gained a new sense of order and responsibility.

As an employee of Humble's production department, Dave Harris was often a member of the "suitcase parades"—moving from one oil town to another as new oil discoveries were made and new areas of production were developed.

After gaining his initial experience in the Ranger and Desdemona fields, he was moved up to Wichita Falls in 1920 to become clerical assistant to the division superintendent. Here he became familiar with operations at Burkburnett and Iowa Park, Texas, and at

Duncan, Cement, and Walters, Oklahoma. Soon he had gained another promotion, and was transferred to El Dorado, Arkansas, where he became production foreman and assistant district superintendent. Next, he was sent as district superintendent to Mexia, Texas, where another memorable oil boom was in full sway.

EARLY in 1922, Mr. Harris was transferred to Shreveport as assistant division superintendent of the North Louisiana-Arkansas Division under Eugene Holman, now president of Standard Oil Company (New Jersey). In 1926, when Mr. Holman became Humble's chief geologist, Dave Harris succeeded him as division superintendent at Shreveport.

Two years later, he was summoned to Luling to supervise the drilling of Humble wells in the Salt Flat field, and also a wildcat well at Tamaulipas, Mexico. Soon after that he was transferred to Houston as superintendent of the Gulf Coast Division, which included South Louisiana and extended across South Texas to Laredo.

When oil was discovered in the famous East Texas field, Dave Harris was put in charge of Humble operations there. It was the largest such operation ever undertaken by an American oil company in one area.

In 1932, Dave Harris moved to San Antonio as division superintendent. Two years later he became Manager of Humble's Industrial Relations Department, predecessor of the present Employee Relations Department.

In 1941, he was elected to Humble's Board of Directors and the following year he was named Treasurer of the Company; in 1947 he was made a Vice-President.

During World War II, Mr. Harris served as chairman of industry members of the National War Labor Board, Region VIII, which included Texas, Oklahoma, and Louisiana. He was also Chief Counselor for the Training-Within-Industry Section of the War Manpower Commission. He has been a member of the Air Force Survey Advisory Committee.

Professionally, he has taken an active part in oil industry activities. He is a member of the production division of the American Petroleum Institute, and has been a member of the vocational training committee. He has served as vice president of the Louisiana Division of the Mid-Continent Oil & Gas Association.

Possessed of a warm personality, a strong sense of fairness, and a sincere interest in other people, Dave Harris has always attracted friends. He is a natural leader of men, and in the course of his career he has inspired many strong and enduring loyalties.

AT A farewell dinner given for Mr. Harris in Houston on June 16, Humble President Hines H. Baker voiced the sentiments of the Company's employees, officers, and directors:

"Dave Harris," he said, "represents the best we have in integrity and character, in courage and conscientious devotion to duty, in loyalty to the Humble Company, in useful citizenship, in the spirit of good will, and in personal friendship. I could go on, but I will summarize by saying Dave represents the best."

President Hines H. Baker presents retirement pin to Mr. Harris at meeting of Board of Directors. Left to right in background are Morgan J. Davis, Richard J. Gonzalez, H. W. Ferguson, L. T. Barrow, David Frame, J. A. Neath, Rex G. Baker.

They have retired

THE twenty-one employees joining the annuitant ranks since the last issue of THE HUMBLE WAY have a combined service record of 582 years with the Humble Companies. Seven of the 21 individuals have service periods of 30 or more years.

HUMBLE PIPE LINE COMPANY

After 20 years at Pendall Station, SIDNEY D. BOONE, telegraph operator, retired May 1. He has been with Humble more than 32 years. Mr. Boone joined the Company at Chilton as operator-gauger; he became telegraph operator in 1941. He owns a home in Valley Mills, Texas, where he will live during retirement and pursue his hobbies of fishing, gardening, and golfing.

Oiler MARTIN BROWN at Refugio Station retired June 9 with almost 30 years' service. He worked for the Standard Oil Company of Louisiana before joining Humble at Navasota in February, 1924. He has since worked for the Company at Webster, Baytown, Goose Creek, Lorena, Ingleside, Aransas, and Harbor Island. He hopes to do some traveling during his retirement.

JOHN HOLDER, engineer at Pittsburg Station, has spent all but 8 months of his nearly 34 years' service at Pendall Station which he helped to construct. He retired May 16, having missed but one day because of sickness during 33 years at Pendall. At his brick home in Clifton, Texas, he plans to relax and get in some fishing.

JAMES E. MARTIN, who started with Humble as a telegraph operator at Hobbs, retired April 12 as engineer at Judkins Station. He has almost 23 years' service.

HENRY A. MORRISON, engineer at Judkins Station, retired April 26 after 32 years of pipelining. Almost 25 of these years have been with the Company. Mr. Morrison worked with Tidewater Pipe Company before joining Humble. He received a Coin-Your-Idea award for suggesting a change in the method of tying in the booster pump to tanks. He likes woodworking as a hobby, and he plans to buy a boat and motor to use during retirement.

Oiler JAMES E. TOMBERLIN, at Yates-Pecos Station retired May 16. He was employed as a linerider-walker and later worked as pipeliner and oiler. His more than 25 years' service with Humble has been spent at Stations A and B and Yates-Pecos. Among his special interests are gardening and flower raising.

FRED W. REAVIS, engineer at Judkins Station, retired May 8 after more than 26 years' service. He joined Humble as a laborer at San Angelo. Later he worked at McCamey, Station A, and Judkins. Mr. Reavis likes to tinker with tools, and he repairs electric appliances. While at Station A, he kept the clocks in the cars operating. He plans to go in business for himself in Fort Worth.

WILLIAM E. TIPTON, head stock gauger at Webster Station, retired April 29. He has more than 26 years' service. Mr. Tipton was employed at Humble as a rotary helper. Later he worked at Corsicana, Beaumont, Hull, Navasota, Sugarland, Pierce Junction, Moss Bluff, Liberty, Hearne, Hempstead, Damon Mound, Richmond, Thompsons, Conroe, Barbers Hill, Dickinson, Tomball, and Webster. He will live in League City, where he owns his home. He plans to raise a garden and do some fishing and hunting.

PRODUCTION DEPARTMENT

Completing almost 25 years' service, LEE E. MARQUIS, pumper at Wink, retired April 8. He started with Humble as a laborer at Hurdle; all of his service has been in the West Texas Division. He will improve his home in McCamey and possibly build another house or two there now that he has retired.

R. Q. TEKEL, lease pumper-gauger at Gladewater, retired May 10 after more than 28 years' service. He was employed as a pumper at Powell; he has been at Gladewater since 1931 when the area was in early stages of development. Mr. Tekel likes hunting small game such as squirrels and birds; he also likes to fish.

BAYTOWN REFINERY

CORNELIUS CHARLES, laborer, retired April 23 after 26 year's service. All of his service with the Company has been at the Baytown Refinery as coke cleaner, janitor, and laborer.

LUTHER W. CORNELIUS, who likes to experiment with radio as a hobby, retired April 12 as a tester in the Laboratory group. He has been with the Company for more than 23 years. Other interests of his include woodworking and reading. He will live in Baytown and spend more time on his hobbies.

Boilermaker First HENRY J. DAVIS retired May 1 with more than 36 years' service. He worked for Standard Oil Company of Louisiana before coming into the Boilermaker Department at Baytown Refinery, where he has spent his time since joining Humble. Mr. Davis includes gardening and flower raising among his special interests.

CARLISLE W. HOGUE, rate check and time posting clerk, retired March 14 after 24 years' service. He started with the Refinery as a field clerk in the Time Department. Later he transferred to Foamite as fire equipment inspector and to Accounting in his present classification. He will live in Cleveland, Texas, where he will follow his hobbies of gardening and flower raising.

JOE L. HOLEC, machinist first, will put his special interest, ranching, into practice by taking care of a ranch during retirement. Mr. Holec retired May 1 after 31 years' service with the Company. He has served in the Machine Department of the Refinery since May, 1926.

On retiring April 9, MALCOLM J. MCDONALD, guard, began giving more attention to his hobbies of fishing, gardening, and grafting of trees. Mr. McDonald has more than 24 years' service. With the exception of a short period in the Pipe Department as helper and in the Labor Department as laborer, he spent all of his service in Plant Protection as a guard.

FRED ROLL, helper, retired February 19 after more than 24 years' service. Mr. Roll's special interest is his garden.

JAMES W. SHANNON, assistant foreman, retired April 4, having completed more than 32 years' service with Humble. All of his career with the Company was spent at Ingleside and Baytown refineries. He plans to do more fishing, hunting, and gardening during retirement.

SALES DEPARTMENT

SIDNEY FREUND, specialty salesman in the Southwest Texas Division Office, retired May 6 after more than 20 years' service. Mr. Freund was employed in the Houston Office and entered Sales Specialty Manufacturing. He transferred to San Antonio District in April, 1945.

HOUSTON OFFICE

DOROTHY D. HUTCHISON, office assistant in the Refining Products Division, retired May 8 after 35 years' service.

Humble Pipe Line Company Treasurer CECIL D. VOSS retired June 1 with more than 33 years' service. Mr. Voss had served in this capacity since March 1, 1929, when he was elected to the position. He was employed as chief clerk in Humble Pipe Line Company, and was promoted to assistant auditor on February 15, 1922. He was elected assistant secretary February 2, 1925; secretary and auditor August 1, 1928; secretary and assistant treasurer and Humble Pipe Line Company director September 10, 1928. During retirement, he plans to pursue his hobbies of gardening, golfing, and traveling.

Deaths

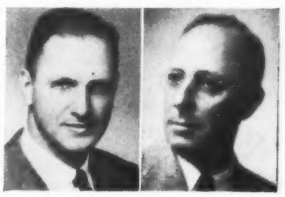
SINCE the last issue of THE HUMBLE WAY, 15 active employees and four annuitants have died.

Active employees who have died are: Stephen P. Almond, 44, senior clerical supervisor in Refining Accounting in the Houston Office, on June 2; Matthew E. Brunson, 53, toolroom man at Baytown Refinery, on April 17; George W. Carroll, 50, assistant superintendent at RuR SR 10, Baytown Refinery, on May 22; Hollis W. Cross, 33, transport operator at North Texas Terminal, on April 7; Wallace M. Hedricks, 41, helper at Baytown Refinery, on May 30; Harry L. Henry, 50, pipeliner at Hearne Station, on May 31; Mary Louise Huey, 24, secretary in Petroleum Engineering in the Houston Office, on May 31; Samuel L. Lomenick, 53, roustabout gangpusher at North Crowley, on April 8; William M. Looney, 35, lease pumper-gauger at Winters District, on May 22; Wesley G. Myers, 52, lease pumper-gauger at Galveston Bay, on May 9; James G. Rowe, Jr., 46, division landman in North Texas, on May 15; Cecil R. Smith, 59, head stock gauger at McCamey Station, on May 30; Travis E. Smith, 63, machinist supervisor in the Machine Department at Baytown Refinery, on May 30; Pearley R. Taylor, 58, lease pumper-gauger at Hardin District, on May 13; Willie R. Wied, 52, pipe fitter first at Baytown Refinery, on April 1.

Annuitants: Singleton Bryan, Sr., 75, district distribution voucher clerk in Production Accounting, Houston Office, before his retirement, died on April 16; Luther E. Cochrum, 70, rotary driller at Friendswood before his retirement, died on June 4; Daniel J. Holland, 68, railroad foreman at Baytown Refinery before his retirement, died on May 21; Addie L. Sarver, 62, pumper at Baytown Refinery before his retirement, died on May 7.

Four Promotions Are Announced

Three important promotions in the Production Department and one in Humble Pipe Line Company were announced early in June.



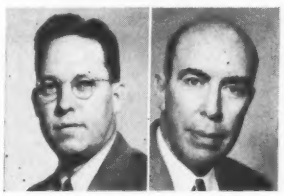
Thomas Sue

Bowman Thomas, who has been away on special training assignments for the past year, was named Assistant Manager of the Production Department, responsible for all staff activities, including proration and unitization work.

John O. Sue, formerly Division Superintendent of the Gas Division, became Assistant Manager of the Production Department, responsible for natural gas sales, transportation, and processing, and the operation of all gasoline plants.

Ralph J. Schilthuis, formerly Acting Assistant Manager of the Production Department on a training assignment, became Division Superintendent of the Gas Division, replacing John O. Sue.

E. L. Krueger has been elected Treasurer and member of the Board of Directors of Humble Pipe Line Company, succeeding C. D. Voss, who retired June 1. Mr. Krueger, formerly Secretary and Assistant Treasurer, has been with Humble Pipe Line Company for about 30 years. He will continue to serve as Secretary as well as Treasurer.



Schilthuis Krueger

By the way . . .

HUMBLE POSTS NEW PRICE SCHEDULE FOR CRUDE OIL

The following statement was issued on June 15 by Hines H. Baker, President, Humble Oil & Refining Company:

"Crude oil prices in Texas and New Mexico have not advanced generally since December 1947. These prices today average less than in 1948. Meanwhile, wholesale commodity prices generally have increased substantially. Rates of pay and costs of materials used in oil production have increased more than prices generally; and combined costs of finding, developing, and producing oil have advanced even more. These facts mean that crude oil prices have not reflected the decline in the value of the dollar nor any part of the large increase in costs that has occurred in the past five years.

"Petroleum demand now is more than 25 per cent above that of 1948 and still gaining. It is necessary for the industry not only to meet this demand but also to provide reserve capacity for national security. World War II demonstrated the strategic importance of oil to victory and the value of reserve producing capacity for national security. Subsequent developments continue to emphasize the significance of oil for national defense. The fact that domestic producers are called upon to carry substantial reserve capacity for reasons of national security increases the investment and operating costs per barrel produced.

"Since the last general change in crude oil prices, there have been many developments in the technology of oil refining which influence the relative yields of products from different crude oils. Also, there have been some changes up and down in the price of refined products. These changes have affected the relative values of the several grades of crude oil produced and have brought about substantial price inequalities.

"Considering all of these matters, Humble Oil & Refining Company has decided to establish a new schedule of posted prices for crude oil purchased by it. Accordingly, it has published Price Bulletin No. 204, effective 7 a.m. June 15, 1953. While the average increase in prices amounts to about 25 cents per barrel, adjustments between grades vary. The changes for the principal grades of crude are as set forth below:

"Low Cold Test Coastal, Hastings, and Mirando grades increased 35 cents a barrel;

"Anahuac, Refugio, Sweden, Imogene, Conroe, and Tomball grades increased 30 cents a barrel;

"East Texas field, East Central Texas, West Central Texas, West Texas and New Mexico, Panhandle, Salt Flat, and Van grades increased 25 cents a barrel;

"Hawkins-Talco and Pearsall grades increased 10 cents a barrel;

"Yates field crude, posted on the West Texas gravity schedule in the new bulletin, increased 22 cents a barrel on 30 degree gravity crude oil."

DR. CAPPLEMAN JOINS BAYTOWN MEDICAL STAFF

William Pollard Cappleman, M.D., joined the Medical Division staff at Baytown Refinery on June 1. A native of Honey Grove, Texas, he attended the University of Texas and graduated from Baylor University College of Medicine in 1939. He completed his internship and residency in medicine at Parkland Hospital in Dallas.

After serving as Major in the Army Medical Corps, Dr. Cappleman was a resident physician at the Veterans Hospital at McKinney, Texas. From 1948 to 1953 he was Chief of Medical Service at the Veterans Hospital at Temple, Texas. He was certified by the American Board of Internal Medicine in 1950. Dr. Cappleman is an instructor in medicine at the University of Texas Medical School.

The HUMBLE WAY

Vol. IX No. 1

MAY-JUNE
1953

What They Think of Us..... 1
The Louisiana Purchase..... 5
Humble in Louisiana..... 9
Santa Gertrudis 11
Getting Them Off the Ground....19
Gateway to Mexico.....22
David B. Harris to Retire.....24
They Have Retired.....26
Four Promotions Are Announced..27
By the Way.....28

Published every other month for employees and stockholders

HUMBLE OIL & REFINING COMPANY

P. O. Box 2180, Houston 1, Texas

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D. B. Harris — Morgan J. Davis
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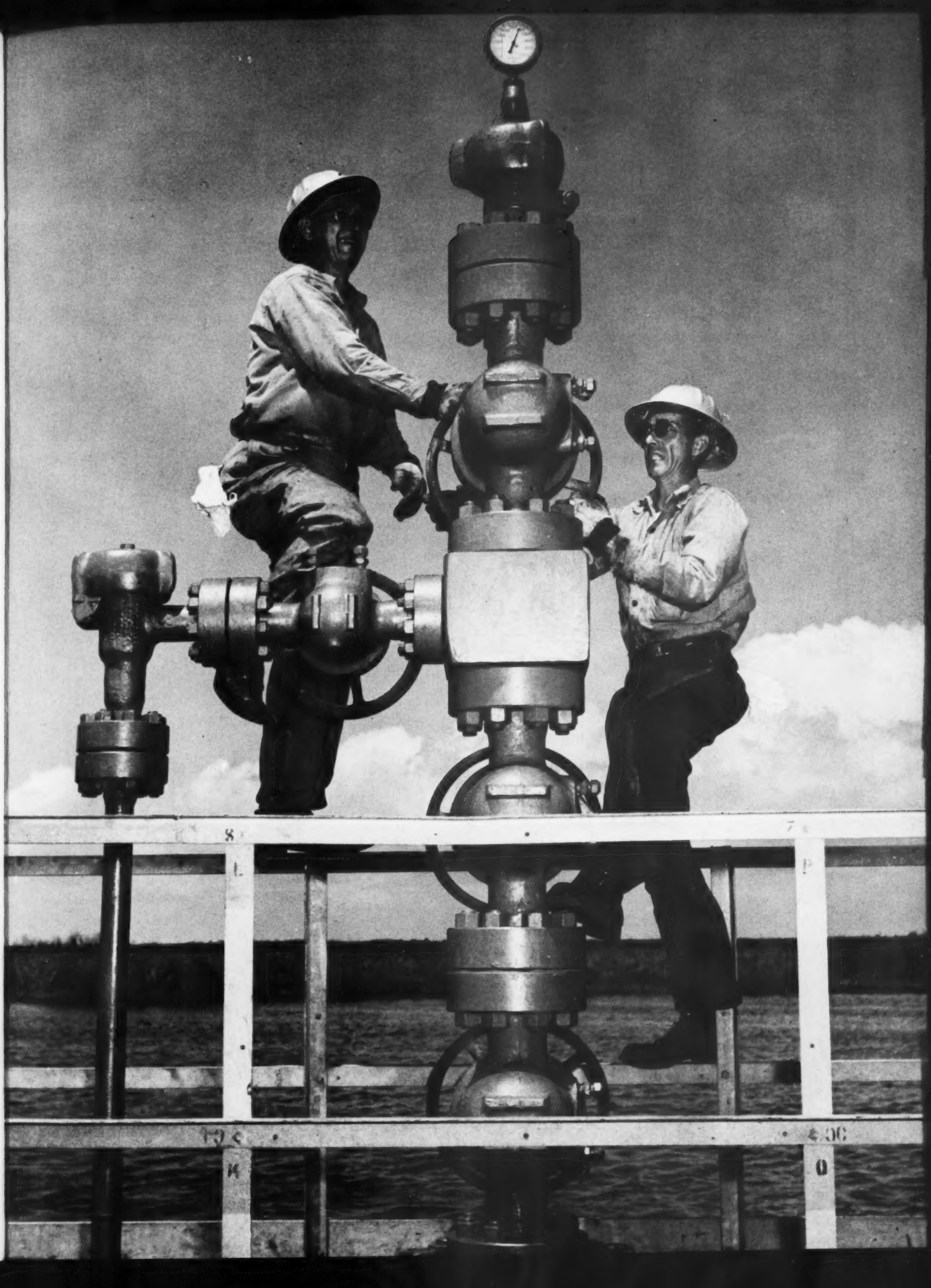
Production employees open valve to start production potential test on a new Humble well in the Weeks Island Field, Louisiana. (See page 9.)

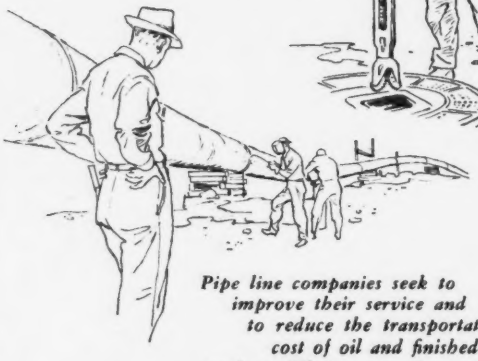


Competition begins with the search for oil.

Competition

gives you the best petroleum products in the world at the lowest prices

Improved drilling and producing methods increase supplies of oil at reasonable prices.



Pipe line companies seek to improve their service and to reduce the transportation cost of oil and finished products. Their success is a major factor in keeping prices of petroleum products low.

Competitive refineries never let a day pass without trying to find a better way to make more and better petroleum products for your use.

The U. S. oil business is one of the most highly competitive industries in this country and, for that matter, in the world. Every time you buy a gallon of gasoline or a quart of motor oil, there are at least 100 companies that would like you to buy from them.

Your purchase stimulates competition far beyond the service station driveway where you make it. It stirs scientists to find more oil for your use. It urges production men to produce oil more efficiently and economically and with less waste. It extends through low-cost transportation pipe lines to refineries that seek better ways to make more and better petroleum products to compete for your business.

Is this competition a good thing?

It certainly is. It's a good thing for you because you get the best petroleum products in the world at the lowest prices. It's a good thing for the country because it stimulates the continuous development and conservation of a vital natural resource. And it's a good thing for the oil business: competition keeps the industry strong, vigorous, progressive.

Your service station dealer competes in product quality and service with all the other dealers in your neighborhood.

HUMBLE OIL & REFINING CO.
HUMBLE PIPE LINE CO.

(This advertisement is one of a series which has been appearing in Texas newspapers and magazines. Similar advertisements were also published in other states in which Humble carries on operations.)